

REMARKS

Claims 1-27, all the claims pending in the application, stand rejected upon informalities, on prior art grounds, and are objected to. Claims 1-22 and 24-27 stand rejected as being directed towards non-statutory subject matter. Applicants respectfully traverse these rejections based on the following discussion.

I. Claim Objections

[0001] Claims 1-27 were objected to because, as indicated in paragraph 2 of the Office Action, the recitation of “rescheduling of the timing of purchase order receipts” is unclear given that the specification equates purchase order receipts to line items on purchase orders. Independent claim 1 has been amended to overcome the rejection by clarifying the rescheduling processes. For example, in claim 1, the limitation of “performing a pre-processing rescheduling of the timing of purchase order receipts into earlier time periods” has been amended to read “performing a first rescheduling process so that said purchase order receipts [i.e., the line items from purchase orders, also as defined by the specification and amended into the independent claims] are rescheduled to be received by a plant during earlier time periods”. Similar amendments have been made to independent claims 8, 15 and 21. In view of the foregoing, the Examiner is respectfully requested to reconsider and withdraw these objections.

II. The 35 U.S.C. §112, Second Paragraph, Rejection

[0002] Claims 1-27 stand rejected under 35 U.S.C. §112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention. These rejections are traversed as explained below.

[0003] Independent claim 1 is rejected under this section because “Claim 1 recites the limitation “said purchase order receipts” in the post-processing step. One of ordinary skill in the art would not know whether this limitation refers to the purchase order receipts of the “pre-processing step or the rescheduled purchase order receipts of the “solving” step.” Independent claim 1 is also specifically rejected under this section because “the claim recites “pre-processing” and “post-processing”, yet does not recite any “processing” step.” Independent

claims 8, 15 and 21 are similarly rejected. Dependent claims 2-8, 9-14, 16-20, and 22-27 were only rejected under this section because they depend from independent claims 1, 8, 15, and 21, respectively.

[0004] Claims 1, 8, 15 and 21 are amended herein to avoid use of the terms pre- and post-processing which, as indicated in the specification, referred to before and after, respectively, of the “solving” step in the method. The claims now more specifically indicate that the solving step is performed using rescheduled purchase order receipts from a first rescheduling process. After the solving step, a second rescheduling process is performed “so that said rescheduled purchase order receipts from said first rescheduling process are rescheduled ...”. Consequently, the Applicants submit that, as amended, the independent claims 1, 8, 15, and 21 are patentable because they now clearly point out and distinctly claim the subject matter which applicant regards as the invention. In view of the foregoing the Examiner is respectfully requested to review and withdraw these rejections.

III. The 35 U.S.C. §101 Rejection

[0005] Claims 1-22 and 24-27 stand rejected under 35 U.S.C. §101 because the claimed invention is directed to non-statutory subject matter. These rejections are traversed as explained below.

[0006] Independent claims 1, 8, and 15 are rejected under this section because “the claims are not tied to another statutory category (e.g., an apparatus for carrying out the method”, nor do they transform underlying subject matter. Independent claims 1, 8, 15 and also 21 are further rejected under this section because they do not produce a physical transformation, or a useful, concrete, and tangible final result. Dependent claims 2-8, 9-14, 16-20, and 22-27 were only rejected under this section because they depend from independent claims 1, 8, 15, and 21, respectively.

[0007] Claims 1, 8, and 15, as amended, refer to a computer-implemented method. Thus, the method being claimed is tied to another statutory class, namely, an apparatus in the form of a computer which accomplishes the method steps. Additionally, claims 1, 8, 15, and 21, as amended, include limitations wherein a first file is received and, after various processing steps

(e.g., a first rescheduling process on the purchase order receipts contained in the first file, a solving process using rescheduled purchase order receipts from the first scheduling process, a second rescheduling process, etc.), a second file is output.

[0008] The Applicants submit that the second file effectively amounts to a physical transformation of the first file (see paragraph [0081] which clearly indicates that the method transforms input files into output files). Furthermore, the second file amounts to a useful, concrete and tangible final result. That is, generally, in a linear programming application, the output file (i.e., the second file) is the optimal output solution for production planning, as transformed into a useable format (see paragraph [0081]). In other words, it is a useful, tangible and concrete result. In this case, as a result of the first and second rescheduling processes that are performed before and after the solving process, respectively, the output file (i.e. second file) similarly provides an optimal output solution for production planning (i.e., a useful, tangible and concrete result), but does so with minimized costs (e.g., associated with maintaining excessively large inventories, see paragraph [0020]).

[0009] Claim 1 has further been amended to provide guidance regarding how to schedule the purchase order receipts in the first and second rescheduling processes. Specifically, in the first rescheduling process of amended claim 1, rescheduling is performed so that the purchase order receipts will be received by a plant during “earlier time periods than initially specified” and, in the second scheduling process of amended claim 1, rescheduling is performed so that the purchase order receipts will be received by the plant “during later time periods than specified during said first rescheduling process.” Since guidance is now provided in the claim as to how to perform the rescheduling processes, the method is repeatable and predictable and the claimed invention produces a useful result. Similarly claims 8 and 21 are amended herein to provide guidance regarding how to sort the rescheduled purchase order receipts. Specifically, in claims 8 and 21, the sorting process is performed “based on predetermined criteria”. Since guidance is now provided in the claims as to how to perform the sorting process, the method is repeatable and predictable and the claimed invention produces a useful result.

[0010] In view of the foregoing, the Examiner is respectfully requested to reconsider and withdraw these rejections.

III. The Prior Art Rejections

[0011] Claims 1-9, 11, 13-14, 21-22, 24, and 26-27 stand rejected under 35 U.S.C. §102(b) as being anticipated by Lilly (U.S. Patent No. 6,088,626). Claims 10, 12, 15-20, 23, and 25 stand rejected under 35 U.S.C. §103(a) as being unpatentable over Lilly. Applicants respectfully traverse these rejections based on the following discussion.

[0012] The Applicants submit that Lilly does not teach or suggest the following features of amended independent claim 1 (or the similar features of amended independent claims 8, 15 and 21): (1) “performing a first rescheduling process so that said purchase order receipts are rescheduled to be received by a plant during earlier time periods than initially specified”; (2) “after said performing of said first rescheduling process, solving core production planning system equations using rescheduled purchase order receipts from said first rescheduling process”; and (3) “after said solving, performing a second rescheduling process so that said rescheduled purchase order receipts from said first rescheduling process are rescheduled to be received by said plant during later time periods than specified during said first rescheduling process”.

[0013] Per the Abstract, Lilly teaches a computerized system for scheduling a plurality of work orders in a manufacturing process. Each work order to be scheduled specifies a set of operations to be performed using a plurality of resources and materials. Data including resource availability information for each resource used in the manufacturing process, material availability information for each material used in the manufacturing process, and work order information is received and stored in a computer. The work order information includes a release date for the work order, a want date for the work order, operations information, and material requirements information. The operations information includes the identity and sequence of operations to be performed for the work order, the identity of the resources needed to perform each operation, a minimum resource capacity needed to perform each operation, and the time needed to perform the operation. The materials information includes the identity of the materials needed to perform each operation and the quantity of each material needed for the operation. Resource capacity and a start date/time and a finish date/time are assigned to each operation

based upon the resource availability information, the material availability information, and the work order information. The assigned resource-capacity, the assigned start date/time, and the assigned finish date/time for each operation are displayed on a computer screen in a graphical format.

[0014] The Office Action the Lilly discloses “performing a pre-processing rescheduling of the timing of purchase order receipts into earlier time periods (see figure 2: "Backward Schedule"; figure 8: item 83; col. 9-14)”, “solving core production planning system equations using rescheduled purchase order receipts (see col. 9-14)”; and “performing a post-processing rescheduling of the timing or said purchase order receipts into later time periods (see figure 3: "Forward Schedule"; (figure 8: item 85: col 9-14)”. The Applicants respectfully disagree.

[0015] As shown above, in the rejection of claim 1 and similarly in the rejection of claims 8, 15 and 21, the Office Action cites columns 9-14 of the Lilly specification as generally disclosing each of the claimed features of the invention. Item 83 of Figure 8 is specifically cited as disclosing the pre-processing rescheduling (i.e., the first rescheduling process performed before the solving process) and Item 85 of Figure 8 is specifically cited as disclosing the post-processing rescheduling (i.e., the second rescheduling process performed after the solving process). No portion of the specification is specifically cited as disclosing the limitation of “solving core production planning system equations...”.

[0016] Per MPEP§1.104 “In rejecting claims for want of novelty or for obviousness, the examiner must cite the best references at his or her command. When a reference is complex or shows or describes inventions other than that claimed by the applicant, the particular part relied on must be designated as nearly as practicable. The pertinence of each reference, if not apparent, must be clearly explained and each rejected claim specified.”

[0017] The Applicants submit that the requirements of MPEP§1.104 have been met with respect to the pre-and post-processing rescheduling limitations (i.e., the first and second rescheduling processes, as currently claimed) because the Examiner cites specifically items 83 and 85 of Figure 8. However, the Applicants further submit that the requirements of MPEP§1.104 have not been met with respect to the solving limitation of claims 1, 8, 15 and 21.

Specifically, columns 9-14 of the Lilly specification contain approximately 2800 words and describe in detail the entire invention of Lilly as illustrated in Figures 2, 4, and 8-10. Thus, it is unclear which particular part of Lilly is being relied upon as teaching this solving limitation.

[0018] In addition, the terms “solving” or “equations” are not found in the cited portion (i.e., within col. 9-14) or anywhere else in the specification. Furthermore, the phrase “linear programming”, which might imply the solving of such equations, is also not found within the cited portion (i.e., within col. 9-14) or anywhere else in the specification. Consequently, the Applicants submit that nowhere in the specification of Lilly is this solving limitation taught or suggested.

[0019] The Applicants also submit that items 83 and 85 of Figure 8 and the related text in columns 9-14 do not show the rescheduling limitations of the present invention, as indicated in the Office Action. More specifically, col. 9, lines 39-56, of Lilly, provide that with the Lilly method first sequence in which work orders will be scheduled is determined, then the system will process each work order one at a time in the determined sequence. Processing each work order includes scheduling the operations that must occur to meet the work order. That is, as background, each work order has a linear sequence of operations that must be processed (see col. 6, lines 36-38). The cited portion of Lilly (i.e., col. 9-col. 14) refers not to the process of scheduling each work order, but rather to the process of scheduling each operation within a work order.

[0020] Col. 9, line 58, through col. 10, line 4 references a preferred embodiment of Lilly’s method and apparatus for scheduling work order operations. In this embodiment, the method/apparatus of Lilly initially schedules all operations of a work order in the backward direction (see col. 9, lines 58-60). If backward scheduling results in a schedule in which no operations are scheduled prior to the current date, then the resulting schedule is saved and displayed (see col. 9, lines 60-63). It should be noted that item 83 of Figure 8 (cited in the Office Action as teaching the pre-processing rescheduling limitation (i.e., the first rescheduling process)) refers to this backward scheduling process. Col. 10, lines 32-35 further defines backward scheduling as processing each operation starting with the last operation and ending

with the first operation (see col. 10, line 50-col. 11, line 44). Thus, as disclosed the term “backwards scheduling” refers to an initial scheduling process and also the order in which each operation is to be processed during initial scheduling. It does not refer to a rescheduling process. Furthermore, nowhere does Lilly teach or suggest that this backward scheduling is performed “so that said purchase order receipts are rescheduled to be received by a plant during earlier time periods than initially specified”, as claimed.

[0021] Subsequently, in the Lilly method, if backwards scheduling exceeds the current date, then forward scheduling is performed (see col. 9, lines 63-65). It should be noted that item 85 of Figure 8 (cited in the Office Action as teaching the post-processing rescheduling limitation (i.e., the second rescheduling process)) refers to this same forward scheduling process (see col. 10, lines 40-43). Col. 10, line 50-col. 11, line 44 defines forward scheduling as processing each operation starting with the first operation and ending with the last operation. Thus, forward scheduling is used as an alternative to backward scheduling if certain conditions occur and is not a rescheduling process. Additionally, nowhere does Lilly teach or suggest that this forward scheduling is performed “so that said purchase order receipts are rescheduled to be received by a plant during earlier time periods than initially specified”, as claimed. Finally, the forward scheduling of Lilly is performed immediately following backward scheduling in the event of certain conditions. It does not occur after a solving process or, more particularly, after “solving core production planning system equations using rescheduled purchase order receipts from said first rescheduling process”, as claimed.

[0022] It should further be noted that after scheduling the operations of a work order in a forward direction, the Lilly method differentiates between determinate and non-determinate operations and reschedules non-determinate operations, if possible (see col. 9, line 65-col. 10, line 1). It should be noted that item 86 of Figure 8 refers to this same determinate/non-determinate (critical/non-critical) differentiation process (see col. 10, lines 44-49). Thus, rescheduling of a work order’s operations is performed in the Lilly method only in the event of forward scheduling and only for “non-determinate operations”. Nowhere in this differentiation process does Lilly teach performing rescheduling of a work order’s operations “so that said purchase order receipts are rescheduled to be received by a plant during earlier time periods than

initially specified” (as in the first rescheduling process of the present invention) or “so that said rescheduled purchase order receipts from said first rescheduling process are rescheduled to be received by said plant during later time periods than specified during said first rescheduling process” (as in the second rescheduling process of the present invention).

[0023] Therefore, the Applicants submit that amended independent claims 1, 8, 15 and 21 are patentable over Lilly. Further, dependent claims 2-7, 9-14, 16-20 and 22-27 are similarly patentable, not only by virtue of their dependency from a patentable independent claim, but also by virtue of the additional features of the invention they define. Moreover, the Applicants note that all claims are properly supported in the specification and accompanying drawings, and no new matter is being added. In view of the foregoing, the Examiner is respectfully requested to reconsider and withdraw the rejections.

IV. Formal Matters and Conclusion

With respect to the rejections to the claims, the claims have been amended, above, to overcome these rejections. In view of the foregoing, the Applicants submit that claims 1-27, all the claims presently pending in the application, are patentably distinct from the prior art of record and are in condition for allowance. Therefore, the Examiner is respectfully requested to reconsider and withdraw the rejections to the claims and further to pass the above application to issue at the earliest possible time.

Should the Examiner find the application to be other than in condition for allowance, the Examiner is requested to contact the undersigned at the local telephone number listed below to discuss any other changes deemed necessary. Please charge any deficiencies and credit any overpayments to Attorney’s Deposit Account Number 09-0567.

Respectfully submitted,

Dated: October 16, 2008

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